

Wisconsin Material Approval for ATG Leak Detection Systems: A Level Perspective
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The Wisconsin Chapter Comm 10 code for Flammable and Combustible Liquids, requires under s. Comm 10.125 specific approval of materials, equipment, concepts, technology and devices before they can be used in a petroleum tank system. The following is intended to give you a better understanding of the material approval process, and provide direction for how you can find important information related to your specific system.

As part of the material approval process, tank and pipeline leak detection systems used to comply with leak detection requirements under the Chapter Comm 10 code must be tested and validated as meeting those requirements by an independent third party. The third-party testing must then be reviewed by Wisconsin Department of Commerce (Commerce) engineering staff who have knowledge and experience with the engineering requirements and applicable regulations. If the testing and validation is found to be satisfactory, a numbered Wisconsin Material Approval document is issued.

The material approval document is structured to assist owners, manufacturers, installers, plan reviewers, inspectors and permitting staff in determining whether the leak detection system is operating under the minimum performance requirements as validated by the third-party testing.

Each leak detection system material approval contains critical performance criteria, which are used as minimal performance requirements to ensure an individual test is capable of accurately measuring a leak rate. The critical performance criteria are established during the third-party testing of each system; this is where the minimal performance requirements are controlled and set to verify the system is capable of meeting the EPA minimum criteria of 95% Probability of Detection, and 5% Probability of False Alarm.

Typical critical performance criteria for an Automatic Tank Gauge (ATG) system include maximum tank size; minimum product level; wait times between filling tank or dispensing and test start; and minimum test period. For Continuous Statistical Leak Detection Systems (CSLD), critical performance criteria are maximum tank size; minimum tank level; and maximum monthly throughput. Depending on the particular manufacturers system, the test may or may not automatically fail if any of the critical performance criteria are not met.

These criteria can change over time due to modifications in manufacturer equipment; a change in manufacturer leak detection limits; reevaluation of the equipment by the third party vendor; or by a change in regulatory review and acceptance practices. Any changes in the critical performance criteria will lead to issuance of a new or revised material approval.

Over the last several years, the most common reason for a new or revised material approval has been the result of changes in the minimum level requirement for product testing. Many of the manufacturers, through either additional testing or reevaluation of the original test data have been able to reduce the minimum test requirement of 50 % product level to much lower levels. Some of the manufacturers now relate the minimum required product level to tank diameter, with the limiting level based entirely on the mechanical design of the probe float system. Still other manufacturers specify a minimum percentage for all tanks, regardless of size, while at the same time reducing the minimum level required to less than 50%.

The manufacturer of your leak detection system should either directly or through their distributors keep you informed when important changes occur to their Wisconsin Material Approval. However, there is another way for you to obtain the latest version of the Wisconsin Material Approval; visit the Department of Commerce Material Approval Web-site at <http://www.commerce.state.wi.us/ER/ER-BST-MA-HomeInfoPage.html>.

This brief overview of the material approval process and an explanation of important information you would be expected to find in a material approval for an ATG is the first step to learning about the process. To learn more about the critical performance criteria for your individual ATG system we encourage you to visit our web-site. Knowing this information about your system will assist you in maintaining it in good condition; obtaining valid test results; and above-all remaining in compliance with federal and state leak detection requirements. If you have any questions about the material approval process, we again encourage you to visit our web-site, or you can contact Greg Bareta at (608) 267-9795.

Recent Changes to EBW and Gilbarco Material Approvals affect minimum levels:

EBW

The 2002 Material Approval for Auto/Stik II and Auto/Stik Jr. ATG's has changed the minimum tank levels when used for static monitoring (software version V30 or V50). Static monitoring is when no product is delivered to or taken from the tank during the test period.

Under the previous 990053-U approval, the non-CSLD versions of Auto/Stik II and Auto/Stik Jr. ATG's were approved for monthly monitoring with the tank at least 30% full. Under the current 20020004 approval, the non-CSLD versions of Auto/Stik II and Auto/Stik Jr. ATG's are approved for monthly monitoring with the tank at least 50% full.

The information contained in the previous 990053-U approval was incorrect. Tank owners and operators who installed the non-CSLD versions of Auto/Stik II and Auto/Stik Jr. ATG's under the old approval must now follow the limitations of the new approval for test accuracy to meet Comm 10 requirements.

A software upgrade to the CSLD V31 or V51 version is available to allow the Auto/Stik II and Auto/Stik Jr. ATG's to do monthly monitoring with the tank at least 30% full.

Gilbarco

The 2002 Material Approval for the Gilbarco TM-2/TM-3/EMC series monitoring systems with magnetostrictive probes also has changed the minimum tank levels when used for static monitoring.

Under the previous 960051-U approval, the non-CSLD versions of the Gilbarco TM-2/TM-3/EMC series monitoring systems with magnetostrictive probes were approved for monthly monitoring with a minimum tank level of at least 12-inches. Under the current 20020005 approval, the non-CSLD versions of the Gilbarco TM-2/TM-3/EMC series monitoring systems with magnetostrictive probes are approved for monthly monitoring based on a probe length to tank diameter relationship.

The information contained in the previous 960051-U approval was incorrect. Tank owners and operators who installed the Gilbarco TM-2/TM-3/EMC series monitoring systems under the old approval must now follow the limitations of the new approval for test accuracy to meet Comm 10 requirements.